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REPORT OF THE FEDERAL HORTICULTURAL BOARD.

U. S. DEPARTMENT OF AGRICULTURE,
FEDERAL HORTICULTURAL BOARD,
Washington, D. C., August 30, 1913.

SIR: I submit herewith an executive report covering the administration of the plant quarantine act for the fiscal year ended June 30, 1913.

Respectfully,

C. L. MARLATT,
Chairman of Board.

Hon. DAVID F. HOUSTON,
Secretary of Agriculture.

FEDERAL PLANT QUARANTINE ACT.

The Federal plant quarantine act of August 20, 1912, was immediately effective as to certain quarantines; but not effective as to control of nursery stock importations or other features covered until October 1, 1912. This act was amended March 4, 1913, by adding a proviso to section 7 permitting importation by the Department of Agriculture of plants or plant products under quarantine.

The purpose of this act is to enable the Secretary of Agriculture to regulate the importation of nursery stock and other plants and plant products, and to enable him to establish and maintain quarantine districts for plant diseases and insect pests, and to quarantine against diseased plants or plant products of foreign countries.

THE FEDERAL HORTICULTURAL BOARD.

The act provides (sec. 12) that for the purpose of carrying out its provisions there shall be appointed by the Secretary of Agriculture from existing bureaus and offices in the Department of Agriculture, including the Bureau of Entomology, the Bureau of Plant Industry, and the Forest Service, a Federal Horticultural Board consisting of five members, of whom not more than two shall be appointed from any one bureau or office, and who shall serve without additional compensation. Immediately after the passage of the act the Secretary of Agriculture appointed the following members to constitute this board:

C. L. Marlatt, chairman, Bureau of Entomology; W. A. Orton, vice chairman, Bureau of Plant Industry; George B. Sudworth, Forest Service; A. F. Burgess, Bureau of Entomology; Peter Bisset, Bureau of Plant Industry.

Owing to the needs of departmental work it has been necessary to change this board, and it is at present constituted as follows:

C. L. Marlatt, chairman, Bureau of Entomology; W. A. Orton, vice chairman, Bureau of Plant Industry; George B. Sudworth, Forest Service; W. D. Hunter, Bureau of Entomology; A. V. Stu-
benrauch, Bureau of Plant Industry.

FEDERAL INSPECTION SERVICE.

The supervision of the general Federal inspection service required by the act, namely, that relating to inspection of nursery stock from countries without an official system of inspection, and the inspection necessitated by domestic and foreign quarantines promulgated under the act, is assigned to two principal inspectors, Mr. E. R. Sasscer, transferred from the Bureau of Entomology, and Mr. Perley Spaulding, transferred from the Bureau of Plant Industry. In addition, these men act in an advisory capacity in relation to the examination by State inspectors of nursery stock imported from countries maintaining inspection service.

The requirements of the act in relation to uncertified imported nursery stock may call for inspection at almost any port of entry in the United States, and, furthermore, the special enforcement of foreign and insular domestic quarantines may require an expert inspection service at ports of entry. This is now true in the case of the Hawaiian and Mexican quarantines. Such domestic quarantines as the moth quarantine in New England call for a considerable force of inspectors to supervise the movement of the articles covered by the quarantine. To meet these several needs, the State inspection service has been largely utilized, these State officers having been appointed collaborators of the Department of Agriculture at merely nominal salaries. Some 72 such appointments have been made at salaries ranging from \$1 a year to \$25 a month, depending upon the amount of work which the individual is asked to perform.

In addition to the above, some work in foreign countries, partly of the nature of inspection and partly investigative, has been found necessary, notably in connection with the establishment of the Mexican quarantine and as a means of determining the need of quarantine against certain fruits from the Mediterranean countries. Two such agents have been temporarily employed.

COOPERATION WITH OTHER DEPARTMENTS.

The heartiest cooperation in carrying out the provisions of the plant quarantine act has been rendered by the State, Treasury, and Post Office Departments. In the case of the Treasury Department particularly this has involved a very considerable addition to the duties of customs officers, and the assistance of these officials has been of the greatest value. Through the State Department cooperation of foreign Governments has been effected.

In connection with the cooperation by the Post Office Department, perhaps the most useful single feature has been the prohibition of the importation of nursery stock, as defined in the act, in the mails from foreign countries on and after July 1, 1913, except as to plants addressed to the United States Department of Agriculture, Wash-

ington, D. C. The authority for this action is not found in the plant quarantine act, but is within the powers of the Post Office Department, and supplements, in a very important manner, the plant quarantine act in its relation to the importation of nursery stock. The impracticability of examination, either by State or by Federal officials, of small and practically valueless mail shipments of plants will be apparent to anyone.

REVIEW OF THE WORK OF THE YEAR.

The work of the first year of the enforcement of the Federal plant quarantine act may be conveniently considered under the following heads: (1) Nursery stock importations, (2) foreign plant quarantines, (3) domestic plant quarantines, and (4) investigation of foreign insect or disease enemies of plants as a basis for possible quarantine action.

NURSERY STOCK IMPORTATIONS.

Nursery stock offered for entry into the United States falls into two classes, namely:

- (1) That coming from countries having an official inspection and certification system, and
- (2) From countries which have no system of inspection or certification.

Nursery stock from the first class of countries arrives with some assurance of freedom, or at least the responsibility for its condition fixed on some known foreign official.

Nursery stock from the second class of countries arrives with no information as to its probable freedom from infestation by insects or diseases.

Commercial importations are permitted only from countries belonging to the first category, and from countries belonging to the second category importations are limited by regulation and permitted only for experimental or scientific purposes.

The following countries have provided for inspection and certification of export plants and plant products in conformity with the regulations under the plant quarantine act:¹ Holland, Belgium, France, Germany, Denmark, England, Scotland, Ireland, Japan, Canada, Guatemala, Trinidad, Cuba, Luxemburg, and Bermuda, and these include most of the countries, which have hitherto maintained any considerable commercial trade in nursery stock with the United States. Any other country may obtain the benefits of commercial exportation by providing for the proper inspection and certification of exported stock. The conditions governing importations from countries of these two classes are fully detailed in Circular No. 44, Office of the Secretary, giving the rules and regulations for carrying out the plant quarantine act.

There was necessarily some misunderstanding and some confusion incident to the installation of Federal control of the importation of

¹ Attention should be called in this connection to Plant Quarantine Decision No. 4, issued July 17, 1913, amending Regulation 7 as follows:

"Permits may be canceled and further permits refused for the importation of nursery stock from any given country whenever such stock, in the judgment of the Federal Horticultural Board, is found to be so infested as to plainly indicate that the foreign inspection is merely perfunctory, and such countries shall thereafter be classed as countries which do not maintain nursery stock inspection until satisfactory evidence is presented to show that the regulations of the board have been complied with."

nursery stock from foreign countries. In the main, the importers of nursery stock have endeavored to comply with the law and meet all of its conditions, and even this first year this feature of the work has been very successful and a very large protection has been secured without putting any serious restrictions or heavy burdens on the nursery trade.

The Federal act has also very greatly stimulated those foreign countries which have considerable commercial trade in plants with the United States to do better work of inspection and to provide suitable legislation and officers to meet the requirements of the act. The result of this is already shown in the better quality of the imported nursery stock and its more general freedom from infestation.

In general explanation of the Federal powers in relation to the importation of nursery stock it may be said that these powers relate (1) to the issuance of permits for the importation of nursery stock, (2) the provision for foreign inspection and certification as a condition of entry, and (3) the distribution to the several State inspectors of exact information in regard to the origin, arrival, and destination of the imported stock.

To the several States is left the entire responsibility for the inspection at destination of commercial importations of nursery stock, and, if this inspection is not done by State inspectors, there is nothing in the Federal law to make good this neglect.

INSPECTION OF IMPORTED NURSERY STOCK.

The duty of this department in relation to these commercial importations after entry is to transmit to the proper State inspectors the reports of these importations received from the importers through the different customs officers. These notifications have been duly distributed, and practically all the States have made fairly adequate provision for inspection and have reported results on the forms received for that purpose from this board. This applies only to commercial shipments from countries having an official inspection and certification system.

Examinations of importations from other countries, namely, those without inspection system, must be made under the provisions of the act at port of entry by inspectors of this department as a condition of entry and delivery to the importer. The importations of this latter class are comparatively infrequent and usually of small amount.

The one point that is, perhaps, insufficiently guarded in the Federal plant quarantine act and regulations drawn thereunder is the leaving to State inspectors the important duty of the examination of all commercial importations of nursery stock. While it is true that many of the States have done this work probably as well as it could be done, other States, through lack of money and men, have not been able to inspect all shipments, and, in some few States, no attempt has been made to inspect at all. Fortunately, the States which receive the great mass of the imported stock have the best inspection service and are doing the best work. In going over the reports of the several States, only three States report no inspection whatever owing to the absence of any appropriation for this work. Several of the other States, however, made reports of occasional failure to inspect owing

to lack of time or inadequate appropriation and inspection force. The amount of stock that has gone uninspected represents, however, a very small percentage of the total importations, possibly less than 2 per cent, but, nevertheless, any neglect whatever opens an avenue of danger which should be closed.

A considerable number of commercial importations have come to the District of Columbia, and these have been inspected by experts from the Bureaus of Entomology and Plant Industry of this department. There have also been inspected over 1,000 lots of seeds and plants distributed by the Division of Foreign Seed and Plant Introduction of the Bureau of Plant Industry, as well as seeds and plants sent out through congressional distribution.

The nursery stock entering Porto Rico and the Hawaiian Islands is inspected for this board by the inspectors of the local government concerned, who have been appointed collaborators of the Department of Agriculture for the purpose of these special inspections.

The following table indicates the distribution of imported nursery stock by States:

State.	Number of cases.	State.	Number of cases.
Alabama.....	278	Montana.....	12
Arkansas.....	24	Nebraska.....	100
Arizona.....	2	New Hampshire.....	63
California.....	1,114	New Jersey.....	7,966
Colorado.....	144	New Mexico.....	1
Connecticut.....	1,177	New York.....	11,521
Delaware.....	29	North Carolina.....	167
District of Columbia.....	774	North Dakota.....	1
Florida.....	57	Ohio.....	2,475
Georgia.....	160	Oklahoma.....	7
Idaho.....	12	Oregon.....	244
Illinois.....	2,977	Pennsylvania.....	6,540
Indiana.....	510	Rhode Island.....	404
Iowa.....	422	South Carolina.....	15
Kansas.....	238	South Dakota.....	9
Kentucky.....	204	Texas.....	109
Louisiana.....	329	Tennessee.....	124
Maine.....	29	Utah.....	8
Maryland.....	404	Vermont.....	36
Massachusetts.....	3,602	Virginia.....	153
Michigan.....	851	Washington.....	200
Minnesota.....	314	West Virginia.....	248
Mississippi.....	25	Wisconsin.....	221
Missouri.....	451	Total.....	44,781

The countries of origin and amount and general classification of nursery stock imported during the last fiscal year are indicated in the subjoined table.

Importations of nursery stock during the year ending June 30, 1913.

CLASSES OF PLANTS AND SEEDS.

FEDERAL HORTICULTURAL BOARD.

RESULTS OF STATE AND FEDERAL INSPECTIONS, 1912-1913.

As a result of the better condition of the nursery stock and more thorough inspection given it prior to its exportation, the percentage of gipsy and brown-tail moths brought in has been very greatly decreased as compared with previous years. But four instances of gipsy-moth infestation have been reported on imported nursery stock, two of which were detected on Belgian stock and two on Japanese stock, and but one instance of brown-tail moth was reported, this infested stock originating in France. Stock from Japan has been more infested than that from any other country, but the stock from all the principal exporting countries has been found infested to a greater or less degree, and, in several instances, by insect pests and fungous diseases new to the United States and having very grave possibilities of future damage. All infested stock found has been thoroughly cleaned or destroyed.

Perhaps the most dangerous single item was a consignment of Irish potatoes imported from a locality in Peru thought to be the original home of this tuber, and found to be thoroughly infested, in some instances almost destroyed, by the larvæ of a coleopterous insect new to this country. This potato pest gave every indication of being, perhaps, a more dangerous enemy of this tuber than any insect enemy now occurring in the United States. Altogether, some 110 different insect pests and 19 or more fungous diseases have been detected on 169 shipments of imported nursery stock as reported by State and Federal inspectors.

All importations made by the Department of Agriculture are safeguarded by very rigid regulations and provisions for inspection and proper detention in quarantine or destruction, as the conditions may warrant.

FOREIGN PLANT QUARANTINES.

Under the provisions of section 7 of the plant quarantine act the following plant quarantines have been established:

WHITE PINE BLISTER RUST.—This is Quarantine No. 1, promulgated September 16, 1912, and amended and superseded by Quarantine No. 7, promulgated May 21, 1913. This quarantine was drawn to prevent the introduction into the United States of the white pine blister rust, and forbids the importation into the United States from each and every country of Europe and Asia of all five-leaved pines.

POTATO WART.—This is Quarantine No. 3, promulgated September 20, 1912, to prevent the introduction into the United States of the disease known as "potato wart," "potato canker," "black scab," etc., and forbids the importation into the United States from the countries of Newfoundland; the islands of St. Pierre and Miquelon; Great Britain and Ireland; Germany; and Austria-Hungary, of the common Irish potato (*Solanum tuberosum*).

MEXICAN FRUIT FLY.—This is Quarantine No. 5, and was promulgated January 15, 1913, to prevent the introduction into the United States from Mexico of the insect known as the Mexican fruit fly (*Trypetta ludens*), and forbids the importation into the United States from the Republic of Mexico of the following fruits: Oranges,

sweet limes, mangoes, Achras sapotes, peaches, guavas, and plums. It was amended February 8, 1913, to include, in addition to the above fruits, the grapefruit and its horticultural varieties.

PINK BOLL WORM OF COTTON.¹—This is Quarantine No. 8, promulgated May 28, 1913, to prevent the introduction into the United States of the pink boll worm of cotton, and forbids the importation into the United States of cotton seed of all species and varieties and cottonseed hulls from any foreign locality and country, excepting only the locality of the Imperial Valley in the State of Lower California in Mexico. The importation from the region specified in Mexico is governed by regulations.

Three of these foreign quarantine orders are absolute prohibitions of the entry of the goods covered, namely, the quarantines relating to the white pine blister rust, the potato wart, and the Mexican fruit fly. The pink boll worm of cotton is an absolute prohibition except as to certain States in Mexico. These quarantines are enforced through the active cooperation of the customs service of the Treasury Department.

DOMESTIC PLANT QUARANTINES.

Under the provisions of section 8 of the plant quarantine act the following domestic plant quarantines have been established:

MEDITERRANEAN FRUIT FLY.—This is Quarantine No. 2, promulgated September 18, 1912, to protect the United States from the entry of the Mediterranean fruit fly, now thoroughly established in the Hawaiian Islands. This quarantine prohibits the shipment of any of the fruits and vegetables specified in the Notice of Quarantine into or through any other State, Territory, or District of the United States.

GIPSY MOTH AND BROWN-TAIL MOTH.—This is Quarantine No. 4, promulgated November 5, 1912, and revised and amended as Quarantine No. 10, promulgated June 24, 1913. This quarantine describes and quarantines the districts in New England infested by the two moths named, and makes regulations governing the movement in interstate commerce of plants and plant products which may be infested from the areas quarantined.

DATE-PALM SCALE INSECTS.—This is Quarantine No. 6, promulgated March 1, 1913, to prevent the further distribution in the United States of two important date-palm scale insects. It quarantines certain counties in California, Arizona, and Texas, and makes regulations governing the interstate movement of date palms originating within the areas quarantined.

PINK BOLL WORM OF COTTON.—This is Quarantine No. 9, promulgated June 24, 1913, and applies to the Territory of Hawaii. It has the same object as the foreign quarantine on the same subject described above. It prevents the movement from the Territory of Hawaii into or through any other State, Territory, or District of the United States of all cotton seed and cottonseed hulls.

¹ Referring to the above, under date of Aug. 18, 1913, this quarantine was amended, providing, under regulation, for the entry from the States of Nuevo Leon and Tamaulipas, Mexico, of cotton seed (including seed cotton) and cottonseed hulls grown in the Rio Grande Valley in the States named.

ENFORCEMENT OF QUARANTINES.

The foreign quarantines, for the most part absolutely prohibiting the entry of the goods covered, entail very little difficulty in enforcement and little expense. In the case of the Mexican fruit-fly quarantine, however, on account of the contiguity of the two countries and the freedom of interchange of commodities there is risk of violation outside of commercial importations, which latter are sufficiently safeguarded by the customs officers, namely, by travelers or other persons who may go back and forth across the international line and may carry, for personal use, smaller or larger quantities of the quarantined fruits. Such fruits taken by a tourist en route, stopping over for a day or two at some border town, for example, El Paso or Nogales, might easily be carried by such traveler to the citrus regions of California or New Orleans or Florida, and thus become the means of the introduction of the fruit fly which the quarantine is supposed to guard against. The customs officers customarily do not examine all small luggage, and it has, therefore, been found necessary to supplement the customs officers with inspectors at the principal mainland ports of entry between Mexico and the United States, these inspectors to be with the customs officers and assist the latter in the inspection of baggage, meeting the trains and, if necessary, stopping foot passengers on the international bridges and highways.

The domestic quarantines provide, in general, for the movement of the quarantined articles under a system of inspection and certification. This entails a considerable force of inspectors in the cases both of the quarantine of the Hawaiian Islands, on account of the Mediterranean fruit fly, and the quarantine of certain districts of New England, on account of the gipsy moth and brown-tail moth, and, to a less degree, the date-palm quarantine and the pink boll worm quarantine, the latter covering also the Hawaiian Islands. The funds appropriated for this board would not be sufficient to do this work unaided. Fortunately, the New England quarantine, which, perhaps, entails the largest expense, has been very largely conducted in cooperation with the Bureau of Entomology under the appropriation by Congress for moth control in New England. The large inspection force under this fund has had charge of the inspection of nurseries and other plants and plant products in New England, and otherwise carrying out the provisions of the quarantine and regulations drawn thereunder. The inspection officials and force of the several New England States concerned have also been appointed, at nominal salaries, collaborators of the Department of Agriculture, to make it possible for them to officially represent the department in their work, and in this way the cost of the inspection and enforcement of this quarantine, which is very large, is divided between the appropriation for the Federal Horticultural Board and the moth fund and the State appropriations of the several States concerned.

Similarly the special appropriation by Congress for the investigation of the Mediterranean fruit fly has been used to carry out and give effectiveness to the Hawaiian quarantine against this insect in cooperation with the Federal Horticultural Board. Furthermore, the large item of expense in connection with this quarantine, namely, the port inspection of all steamers for contraband fruit arriving at the ports of California, Oregon, and Washington, is being made for this

board by the State inspectors who have been appointed collaborators of the Department of Agriculture for that purpose at nominal salaries. The cost of this California work alone, if it entirely devolved on the funds appropriated for the board, would nearly exhaust these funds.

Special need of port inspection on account of the Hawaiian quarantine arises from the fact that, under the provisions of section 8, the articles quarantined can only be prohibited from entering into interstate commerce, and this does not prevent any passing ship touching at Hawaii taking on board infested fruit for ship's stores or any traveler for personal use and conveying it across the Pacific to the mainland port. The law is not violated until the fruit has entered the mainland port of destination. This necessitates a very thoroughgoing examination and careful supervision of all vessels, passengers and passengers' baggage coming to California or other coast States from Hawaii. This work is now done, as hitherto, by the inspection force of the several States concerned, and the appointment of these State officials as collaborators of the department is for the purpose of investing them with the additional authority which comes from the Federal act.

FOREIGN INVESTIGATIONS.

Some foreign investigative work will be required from time to time to determine the need for quarantine action, and this work will be done so far as possible in cooperation with the Bureaus of Entomology and Plant Industry of this department. In this connection as thorough an investigation as was possible under the disturbed conditions was made in Mexico to determine the range of the Mexican fruit fly as a basis for the quarantine later promulgated against this pest. A similar investigation is now being made of fruit-fly conditions in Mediterranean countries. This last investigation is being conducted by Prof. H. J. Quayle, of the University of California, who is doing this work in cooperation with this board and at nominal cost.

PUBLICATIONS OF THE BOARD.

Rules and regulations for carrying out the plant quarantine act were promptly prepared by the Federal Horticultural Board, in cooperation with the Solicitor of the department, and were published as Circular No. 41, Office of the Secretary, September 25, 1912. Two revisions of this publication have been issued, the first of date December 20, 1912, and the second as Circular No. 44, Office of the Secretary, issued May 26, 1913, effective on and after July 1, 1913.

In accordance with the provisions of the act, rules and regulations have also been issued, of date May 31, 1913, for the importation of nursery stock by the United States Department of Agriculture for experimental or scientific purposes. Twenty-one other circulars and circular letters have been issued to meet the special needs, and a series of quarantine orders.







